OFFICE OF SCIENCE AND TECHNOLOGY

MISSION

The mission of the Science and Technology program is to manage and direct a national, solution-oriented science and technology program that provides the scientific foundation, new approaches, and new technologies that bring about significant reductions in risk, cost, and schedule for completion of the Environmental Management (EM) cleanup mission. Science and Technology provides the full range of science and technology resources and capabilities, from a targeted basic research program through development, demonstration, and deployment and technical assistance needed to deliver and support fully developed, deployable scientific and technological solutions to EM cleanup and long-term stewardship problems. Establishes policy and provides guidance on long-term stewardship to ensure that human health and the environment are protected sustainably after cleanup is completed, sites are closed, waste is emplaced for disposal, or facilities are stabilized for long periods awaiting possible future remediation. Also, provides management oversight of DOE's EM laboratories, including institutional planning, policy and processes, and management contracts, to enhance and maintain the overall strength and vitality of the laboratories in contributing to the goals of the EM cleanup program.

FUNCTIONS

1. Support the Department and EM in carrying out responsibilities for the overall well-being and management oversight of DOE's EM laboratories, both as individual institutions and as collective science and technology resources for carrying out departmental programs and national needs. Provide the focal point within EM for the Department's institutional planning, policy and processes, and management contracts for EM's laboratories.

2. Establish, manage, and direct a targeted research agenda that addresses EM problems. Provide transformational approaches that will significantly reduce both cleanup costs and risks to workers and the public; bridge the gap between broad fundamental research, such as that performed in the DOE Office of Science, and needs-driven applied technology, required and supported by EM; and focus the nation's science/research infrastructure on critical environmental management problems.

3. Establish, manage, and direct the targeted development and demonstration phases of EM's Office of Science and Technology programs. Identify the best available applied research and transition these research activities into an effective technology development program, delivering fully developed and demonstrated advanced products for DOE cleanup site use that are strongly aligned with end-user needs.

4. Foster partnerships and create opportunities to accelerate the application of new technologies, processes, and knowledge to solve EM problems. Develop initiatives, policies, and procedures that unite end users, regulators, stakeholders, technology vendors and technology developers to ensure widespread use of innovative technologies.

5. Establish policy, provide guidance, and determine the information needs regarding long-term stewardship of EM sites. Ensure that the research and development needs are identified to support the application of science and innovative technologies to stewardship of DOE sites to provide more permanent remedies as appropriate, and more cost-effective and reliable monitoring of these sites. Provide evaluation of the Department's long-term stewardship activities at EM sites.

OFFICE OF LONG-TERM STEWARDSHIP

MISSION

The Office of Long-Term Stewardship will ensure that human health and the environment are protected sustainably after cleanup; is completed, sites are closed, waste is emplaced for disposal, or facilities are stabilized for long periods awaiting possible further remediation. The office will ensure that sites are monitored to detect contaminant migration, site containment intrusion, and that maintenance of barriers and treatment facilities occurs in a safe, timely and cost effective manner. The office will also determine what R&D is needed to provide more permanent remedies, as appropriate, and more cost-effective and reliable monitoring. The office will be reviewing and approving any plans to ensure compliance with policy and guidance. To accomplish this mission, the office will have the responsibility and authority to establish policy, provide guidance, and review performance. In addition, the office will determine the information needs regarding long-term stewardship.

FUNCTIONS

1. Identifies research and development needs and advocates and determines whether they are being met. Research and development areas include monitoring technologies, remedial treatment and containment technologies, and record retention and information technologies.

2. Develops performance measures to determine whether needed R&D is being performed or given adequate consideration in the prioritization process.

3. Ensures that line management of long-term stewardship functions is being performed adequately, primarily by field office personnel, including site monitoring and surveillance of sites and portions of sites, maintenance of sites and portions of sites, long-term stewardship information management (in addition to #5 below), and comparing effectiveness of remedies and monitoring to alternative methods.

4. The Office of Long-Term Stewardship ensures these field functions are performed through a number of direct functions, including reviewing proposed budgets and plans for long-term stewardship from field offices; providing advocacy for adequate long-term stewardship funding for field offices in HQ, OMB, and Congress; analysis of costs for long-term stewardship at sites and portions of sites; and establishing policy guidance and review performance of long-term stewardship at field offices. For sites managed by the Office of Site Closure, HQ responsibility for the site will transfer to the Office of Long-Term Stewardship after the cleanup and closure is completed. For sites managed through the Office of Project Completion, HQ responsibility for the portions of those sites where cleanup is complete will transfer to the Office of Long-Term Stewardship after the cleanup of the appropriate management unit is complete. The Office of Long-Term Stewardship will have the authority and responsibility to establish policy and standards for sites and portions of sites prior to this transfer and approve the designation of sites as "complete" or "stabilized."

5. Performs analyses of issues related to long-term stewardship, coordinated carefully with the Office of Policy, Planning and Budget and others, as necessary and appropriate, and recommends long-term stewardship policy to the Assistant Secretary of Environmental Management. These analyses include potential impacts of proposed remedies on long-term stewardship cost, technical, and institutional feasibility; review of DOE policies and programs that could have an impact on long-term stewardship (e.g., new construction); review of legislation, appropriations statutory and report language that could affect long-term stewardship; review policies of other government agencies and private organizations related to long-term stewardship; analysis of risks (including working with other offices performing such analyses); and review of NEPA documents as appropriate (project-specific and sitewide EISs).

6. Supports and coordinates with brownfields redevelopment and conservation efforts, including working with DOE Office of Worker and Community Transition (WT) and Environment, Safety and Health (EH); site reuse organizations; land conservation organizations (e.g., Nature Conservancy); and the Department of Interior (e.g., F&WS, BLM).

7. Develops and maintains central database that provides a tracking system for all waste, contaminated facilities and media and materials in inventory for DOE (not just EM), necessary (a) to comply with the December 1998 Settlement Agreement ("Central Internet Database"), (b) to provide a "map" tracking where residual contamination is located and where it is ultimately moved to for long-term stewardship purposes, and (c) establish a system tracking the migration of contaminants and potential receptors (e.g., human populations and sensitive habitats).

8. Ensures effective liaison with relevant government agencies and nongovernmental organizations, as necessary for performing long-term stewardship-related functions, including other federal agencies (e.g., GSA, EPA, DOD, Army Corp of Engineers, Interior, National Archives and Records Administration), states, Indian tribes, local governments, STGWG, EMAB, NGA, ECA, etc.

OFFICE OF BASIC AND APPLIED RESEARCH

MISSION

The Office of Basic and Applied Research is responsible for establishing, managing, and directing a targeted research agenda that addresses Environmental Management (EM) problems. Targeted research will provide new transformational approaches that will significantly reduce both cleanup costs and risks to workers and the public. The Office of Basic and Applied Research must bridge the gap between broad fundamental research, such as that performed in the DOE Office of Science, and needs-driven applied technology, required and supported by EM. Further the Office will work to focus the nation's science/research infrastructure on critical environmental management problems.

FUNCTIONS

1. Conduct strategic planning and program implementation in partnership with the Office of Science and Technology (OST) Focus Areas to develop and maintain a targeted research agenda for environmental management problems.

2. Manage research efforts with the OST Focus Areas, and coordinate with other Environmental Management organizations, to identify needs and to formulate responsive programs, ensuring these efforts and programs are peer reviewed and that they complement technology development efforts within the Office of Science and Technology.

3. Coordinate with the other OST offices to ensure that fundamental research is needs-driven and application-based. Provide support on basic and applied research issues to OST programs including International Science and Technology, Technology Regulatory and Site Acceptance, and EM Laboratory Policy.

4. Coordinate with the DOE Offices of Science and Nuclear Energy to ensure that broad fundamental research and applied research enable EM to achieve overall program goals for cheaper, faster, safer cleanups. Serve as the focal point for working with public and private sector entities who are working on basic and applied environmental research. Coordinate EM research activities in support of the Small Businesses Innovative Research and Strategic Environmental Research and Development Programs.

5. Serves as the OST champion for applied research programs such as: the University Research Programs, Robotics Program, Environmental Systems Research and Analysis Activities at the INEEL, Characterization Monitoring and Sensor Technology, and the Efficient Separations Programs.

OFFICE OF TECHNOLOGY DEVELOPMENT AND DEMONSTRATION

MISSION

The Office of Technology Development and Demonstration is responsible for establishing, managing, and directing the targeted development and demonstration phases of Environmental Management's (EM's) Office of Science and Technology (OST) programs. The Office of Technology Development and Demonstration will identify the best available applied research and transition these activities into an effective technology development program. The overall goal of the office is to deliver fully developed and demonstrated products for site use. Developed and demonstrated products will be advanced, strongly aligned with end-user needs, fully documented, assured of supplier availability, readily deployable, acceptable to regulators and stakeholders, and ready when needed.

FUNCTIONS

1. Conduct strategic planning in partnership with the other OST offices and field-based Focus Areas for a sound development and demonstration program targeted to environmental management problems. Strategic planning will include development/presentation of prioritized cross-FA budget documentation and defense. In concert with other OST offices, provide technical support to the Offices of Project Completion, Site Closure, and Integration and Disposition that facilitates the exchange of technology information, knowledge, and performance data among sites and facilitate stakeholder cooperation and regulatory compliance on issues related to technology application.

2. Provide direction, oversight, and evaluation of field-managed program, ensuring implementation is consistent the mission and with guidance developed by the Office of Technology Applications and overall EM policies. Work to facilitate demonstration and deployment plans and to resolve site issues concerning specific demonstration activities.

3. Ensure basic and applied research products are evaluated for continued support by the FAs in an accepted, open, and comprehensive process.

4. Ensure FA planning for development and demonstration is consistent with and contributive to relevant national, state, DOE complex, and international initiatives. Provide peer reviews of developed products that are deemed ready for full-scale demonstration or are at other key decision points. Identify and provide information required by OST FA and EM line program managers to support technical deployment decisions.

5. Directly assist other EM offices in performing national and site needs analysis and development of programmatic input as required by the Integrated Planning, Accountability, and Budgeting System (IPABS).

OFFICE OF TECHNOLOGY APPLICATION

MISSION

The Office of Technology Application aggressively fosters partnerships and creates opportunities to accelerate the application of new technologies, processes, and knowledge to solve Environmental Management (EM) problems. The Office of Technology Application developments initiatives, policies, and procedures that unite end users, regulators, stakeholders, technology vendors and technology developers to enable and ensure widespread use of new technologies. The Office of Technology Application is also responsible for providing the infrastructure required to maintain effective, efficient operation of the Office of Science and Technology (OST); coordinate and integrate OST activities within the EM corporate structure; and report OST performance and accomplishments.

FUNCTIONS

1. Serve as the EM focal point for the development of initiatives, policies, and procedures to accelerate the use of new and innovative technologies, processes, and knowledge to support of the EM cleanup mission. In concert with other OST offices, provide technical support to the Offices of Project Completion, Site Closure, and Integration and Disposition that facilitates the exchange of technology information, knowledge, and performance data among sites; provide cost estimating, technology evaluation, and systems engineering services to support technology selection and usage; facilitate stakeholder cooperation and regulatory compliance on issues related to technology application.

2. Support technology commercialization and develop initiatives to ensure that new technologies are available in the market place for use in the Department of Energy (DOE) complex. Provide a point of contact for new technology to be evaluated and compared against EM needs. Develop and champion initiatives to build partnerships between problem holders and technology vendors, universities, or laboratories to bring new and innovative technologies, processes, or knowledge to bear on the EM cleanup mission. Initiatives may include innovative contracting, performance incentives, risk sharing, commercialization, and technical assistance.

3. Facilitate integration and coordination of OST activities with other EM organizations, including communication, information gathering, and reporting. Develop and maintain an OST infrastructure that is fully aligned with EM corporate policies and procedures. Provide and coordinate existing corporate management systems, processes, and procedures to develop, monitor and report the formulation, execution, and evaluation of OST activities. (This includes, but is not limited to, information management, budgeting and planning guidance and coordination, human resources, performance measurement and OST program evaluation, procurement planning, contract management, and contract administration.

4. Conduct international science and technology initiatives in accordance with departmental policies to ensure that these activities are managed to ensure maximum effectiveness.